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COMMUNIST MILITARY AND ECONOMIC AID TO NORTH VIETNAM, 1970-1974

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COMMUNIST MILITARY AND ECONOMIC AID TO NORTH VIETNAM, 1970-1974¹

KEY POINTS

Communist aid to North Vietnam from 1970-1974 is estimated at \$5.6 billion. Total Communist military and economic aid was higher in 1974 than in any previous year as the following table indicates.

Communist Military and Economic Aid to North Vietnam*

	Million Current US \$					
	1970	1971	1972	1973	1974	1970-1974
Military ...	205	315	750	330	400	2,000
Economic .	675-695	695-720	425-440	575-605	1,150-1,190	3,520-3,650
Total ...	880-900	1,010-1,035	1,175-1,190	905-935	1,550-1,590	5,520-5,650

*These data combine intelligence estimates with US analogies where appropriate. Tables based wholly on analogies to US aid programs in South Vietnam, which we believe portray less valid estimates than those above, are also shown in the text.

- The high level of military deliveries in 1972 replaced North Vietnamese combat losses in that year.
- The cessation of US air attacks in North Vietnam at the beginning of 1973 and the decline in combat activity in the South in 1973 resulted in decreases in air defense equipment assist-

¹ This memorandum has been prepared jointly by the Central Intelligence Agency and the Defense Intelligence Agency, and has been concurred in by the Bureau of Intelligence and Research, Department of State.

ance and in the amount of ammunition and ground forces equipment provided to Hanoi.

- In 1974, the delivery of ammunition to Hanoi markedly increased and reached a level as high as that of 1972, although deliveries of ground forces equipment continued at relatively low levels.
- At the levels of military aid shown, North Vietnam's military capabilities in the South have increased, demonstrating that NVA capabilities are not exclusively aid-driven—particularly when the aid flows of only one or two years are considered.

Economic aid to North Vietnam during 1970-1974 amounted to about \$3.6 billion, rising from almost \$700 million in 1970 to nearly \$1.2 billion in 1974.

- Economic aid was reduced to nearly \$400 million in 1972 with the closure of North Vietnamese ports, but rose in 1973 and 1974 with their reopening and an increase in reconstruction efforts, coupled with the continued need for consumption items.
- China became the leading supplier of economic aid for the first time in 1973.

The estimate of military aid to North Vietnam is not comparable with US aid to South Vietnam.

- Communist forces in South Vietnam can launch attacks from redoubt areas, while the GVN is required to maintain roughly twice the number of men under arms to defend all of South Vietnam—and thus must have commensurately larger logistic support.
- The type of equipment supplied to South Vietnam because of its mobility and firepower requirements is necessarily more sophisticated and expensive than that received by Hanoi.
- Estimates of total military aid to North Vietnam are subject to a wide margin of error owing to the weak data base.

On the economic aid side, much firmer data are available on the amount of goods delivered, although there is a lack of information on quality and appropriate price data, as well as on the number of technicians and academic trainees.

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- The application of US salaries to numbers of Communist technicians in North Vietnam is inappropriate because they reflect different productivity and living standards. The estimate presented in this memorandum is based on an analysis of Communist programs for technical services and academic training in other LDCs and considers the differences in output and standard of living. It results in a lower value than would be derived from a US analogy.

DISCUSSION²

Communist Military Aid to North Vietnam

1. Estimates of military aid to North Vietnam are subject to a wide margin of error and should not be used as controlling factors in forming conclusions about North Vietnamese military capabilities or Soviet and Chinese policy. They are based on a range of data, methodologies, and assumptions varying from reasonably valid to poor. Moreover, for reasons discussed in the paper, this estimate is not comparable to US military aid to South Vietnam.

Military Imports: 1970-1974

2. The value of Communist military aid to North Vietnam was calculated using two price series, a US analog and an adjusted analog. The adjustments were made principally to reflect known, wide discrepancies between US and Communist costs. The net result of the adjustments is small, decreasing the total estimate by only five percent. Because of this small difference, the discussion below treats only the adjusted estimate. Table 1-A shows the

² The materiel portion of the estimate uses or agrees with US analogs for South Vietnam, but the service portion uses analogies adjusted to provide more accurate estimates than would result from the unadjusted US analog.

military aid values arrived at in the adjusted estimate derived by the intelligence community. Table 1-B shows the military aid values arrived at by using an unadjusted US analog price series.

3. During the years 1970-1974, North Vietnam received some \$2.0 billion in military support from its allies. About \$1.4 billion of this was composed of combat materiel such as artillery, tanks and ammunition; the remaining \$600 million comprised military support items including packaging and delivery costs, training, transportation equipment, and POL.³ These deliveries were a major factor

³ Estimates in the economic section of this memorandum treat those goods that have dual (civilian and military) end-use *except* in those cases in which the North Vietnamese Army receives substantially more than its relative share in the population. Thus, POL and trucks are split between military and civilian use in the appropriate tables. Because the equivalent of only about 5 percent of North Vietnam's available food goes to the army, this commodity is treated in the economic section. At the risk of a minor duplication, a value for military rations has been included in the military analog in Table 1B. That portion of North Vietnamese construction equipment and materiel imports (for use on such projects as roads, pipelines, etc.) which is provided by Soviet and Chinese aid is also included in the economic aid estimates. On the US side, military construction costs in South Vietnam have made up about 1 percent of the total military aid package in recent years.

Table 1-A

Soviet and Chinese Military Aid to North Vietnam: Best Estimate

Million Current US \$

	1970	1971	1972	1973	1974 ¹	1970-74 ²
Total.....	200	310	745	325	395	1,975
USSR						
Combat Materiel ³	60	145	360	140	90	795
Military Related Support.....	40	45	120	70	60	335
China						
Combat Materiel ³	75	90	200	85	180	630
Military Related Support.....	25	30	65	30	65	215

¹ Preliminary.

² An additional \$25 million in military aid—about \$5 million per year—is estimated to have been delivered from other Communist countries.

³ Values for combat materiel include an estimate for ammunition imports which is less than figures previously used. See paragraph 17 for a fuller explanation.

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Table 1-B

Soviet and Chinese Military Aid to North Vietnam: US Analog Prices
Million Current US \$

	1970	1971	1972	1973	1974 ¹	1970-74 ²
Total.....	210	330	770	350	410	2,070
USSR						
Combat Materiel ³	60	145	360	140	90	795
Military Related Support.....	45	55	130	85	65	380
China						
Combat Materiel ³	75	90	200	85	180	630
Military Related Support.....	30	40	80	40	75	265

¹ Preliminary.

² An additional \$25 million in military aid—about \$5 million per year—is estimated to have been delivered from other Communist countries.

³ Values for combat materiel include an estimate for ammunition imports which is less than figures previously used. See paragraph 17 for a fuller explanation.

in enabling the North Vietnamese to launch a major offensive in 1972, replace the losses accruing from that offensive, and expand and modernize their armed forces. Since the cease-fire, estimated military aid has been well below that of 1972 and virtually no new types of equipment have been provided. Nonetheless, by mid-1974 the North Vietnamese had developed their most powerful force ever in the South, and aid has been sufficient to enable Hanoi to maintain this force.

4. Deliveries of combat materiel and equipment varied greatly from year to year, generally reflecting North Vietnam's military needs. Soviet and Chinese military hardware and ammunition deliveries to North Vietnam were valued at \$135 million in 1970 and \$235 million in 1971. The Soviet Union contributed about three-fifths of this aid which consisted of air defense equipment as well as ground forces equipment and ammunition (see Table 2). Chinese aid during this period focused almost exclusively on ground forces equipment and ammunition. Military related support for North Vietnam's armed forces during these years was valued at \$65 million and \$75 million respectively, or about 40 percent of combat materiel deliveries. Transportation equipment, spare parts and delivery costs each comprised nearly one-quarter of the total during the period (see Table 3).

5. The 1972 Spring Offensive resulted in the highest military aid levels of the war, with the exception of 1967. The Soviet Union supplied hardware costing \$360 million, over three-quarters of which consisted of expensive air defense equipment, including MIG-21 aircraft, SA-2 missiles and antiaircraft weapons. Deliveries from China were valued at \$200 million and were again concentrated in ground forces equipment and ammunition.

6. The cost of military-related support from the USSR and China also soared in 1972—to \$185 million—as the heavy fighting and US bombing throughout Indochina generated a greater need for auxiliary support. Spare part deliveries—primarily surface-to-air missiles and fighter aircraft—were estimated at a record \$73 million, while the value of transportation equipment nearly doubled from previous levels, principally because of large Communist truck losses. Delivery costs were also high during this period.

7. Soviet and Chinese military deliveries dropped sharply to \$225 million during 1973, as the cessation of US air operations in Indochina and a reduction in fighting in South Vietnam resulted in reduced requirements for Hanoi's forces. Except for the SA-3 missile system, no new major weapons systems were delivered to North Vietnam. Hanoi

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Table 2

Soviet and Chinese Deliveries of Combat
Materiel and Equipment to North Vietnam¹

Million Current US \$

	1970		1971		1972		1973		1974 ²		1970-1974
	USSR	China	USSR	China	USSR	China	USSR	China	USSR	China	USSR & China
Total Combat Materiel.....	60	75	145	90	360	200	140	85	90	180	1,425
Air Defense Equipment.....	10	8	66	6	139	39	59	5	1	54	385
Missiles.....	6	—	15	—	131	—	37	—	—	—	190
Ground Forces Equipment....	12	32	37	44	23	86	19	24	15	30	320
Ammunition ³	34	36	27	33	59	71	27	58	72	95	510
Naval Craft.....	—	—	—	8	8	2	—	—	—	—	20

¹ Individual categories are rounded to the nearest \$1 million, totals to the nearest \$5 million. Totals may not add because of rounding.

² Preliminary.

³ Values for ammunition are less than figures previously published. This decrease was the result of more complete data on US comparable costs. For 1974, an average price of \$3,800 per ton was used for valuing Communist ammunition, compared to an average price of about \$1,900 per ton on the US side. The higher unit cost of ammunition reflects Communist emphasis on the use of relatively small caliber ammunition which is more expensive in terms of unit weight costs.

Table 3

Communist Military-Related Support to North Vietnam

Million Current US \$

	1970		1971		1972		1973		1974 ¹	
	USSR	China	USSR	China	USSR	China	USSR	China	USSR	China
Total Military Support Items ²	40	25	45	30	120	65	70	30	60	65
POL.....	6	Negl.	7	Negl.	10	Negl.	5	10	12	25
Transportation Equipment (Trucks, Helicopters, and Transports).....	13	8	8	7	16	13	30	7	22	5
Medical Supplies.....	2	1	2	3	5	6	3	2	3	3
Delivery Costs.....	9	5	16	7	37	15	19	5	10	9
Spare Parts.....	9	10	11	12	45	28	11	6	8	21
Technical Assistance Advisers.....	1	Negl.	1	Negl.	2	Negl.	2	Negl.	2	Negl.
Trainees.....	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.
Communications Gear.....	1	1	2	2	3	3	1	1	1	1

¹ Preliminary.

² Individual categories are rounded to the nearest \$1 million, totals to the nearest \$5 million. Totals may not add because of rounding.

imported ground forces equipment and ammunition at nearly half the 1972 rate. Military related support fell during 1973 to \$100 million, even though POL costs were more than double most previous years.

8. The preliminary estimate of military deliveries during 1974—a period of increased combat in South

Vietnam—indicates that North Vietnam received about \$270 million worth of equipment and materiel from its Communist donors. This is 20 percent more than 1973. Moreover, China appears to have been the main contributor, for the first time since 1970, with deliveries totaling approximately \$180 million compared to \$90 million for the Soviet

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Union. The shift results largely from the cessation in US bombing which reduced the need for expensive air defense equipment from the Soviets. Chinese military aid apparently increased by \$95 million over the previous year. The delivery of MIG-19s (about \$54 million) accounts for more than half the increase. Increased ammunition shipments and inflation account for the rest. The cost of ammunition, for example, increased 25 percent in 1974 over 1973, and for other categories of military hardware the rate of inflation, although less, was still substantial.

9. Last year the estimated value of combat-related support items increased to \$125 million. Transportation equipment and spare parts were again two major components in this category, although POL—driven by the high rate of inflation—increased by more than 100 percent over the 1973 record level.

Comparisons of Military Aid to North and South Vietnam

10. Comparisons between US military aid to South Vietnam and Communist military aid to North Vietnam are misleading. Throughout the war, South Vietnam's forces have been roughly twice the size of North Vietnam's forces in the South, primarily because the missions of South Vietnam's forces—protecting population and holding territory—have required logistic support for a much larger and widely dispersed military structure. To compensate for the Communists' ability to concentrate their forces and firepower on objectives of their own choosing, the GVN has required a large combat air force and an ability to redeploy forces rapidly by ground and air transport. Thus, the type of equipment supplied to South Vietnam by the US has been more sophisticated and therefore more expensive than that received by Hanoi.

11. Another factor is that the cost to provide the same service or goods to each country may vary for reasons unrelated to the amount being supplied. For example, the cost of transporting goods from China to North Vietnam is much less than the cost of transporting goods from the US to South Vietnam, simply because of the distances involved.

Table 4

Comparisons of Major Categories of Soviet and Chinese Military Aid to North Vietnam and US Aid to South Vietnam

	Communist Military Aid to North Vietnam (Million \$) CY 1974	US Aid to South Vietnam (Million \$) FY 1975
Total.....	389 (100%) ¹	700 (100%)
Air Defense Equipment.....	55 (14%)	— (Negl.)
Ground Forces Equipment....	45 (12%)	— (Negl.)
Ammunition.....	167 (43%)	268 (38%)
POL.....	37 (10%)	87 (12%)
Spare Parts.....	29 (7%)	83 (12%)
Transportation Equipment...	27 (7%)	— (Negl.)
Delivery Costs.....	19 (5%)	74 (11%)
Technical Assistance and Training.....	2 (Negl.)	60 (9%)
Other.....	8 (2%) ²	128 (18%) ³

¹ Figures may not add because of rounding. This numerical total is less than that of Table 1A because of component rounding.

² Includes communications equipment and medical supplies.

³ One reason for the wide disparity is a charge of \$36 million for administrative expenses for the DAO in South Vietnam which has no known counterpart on the Communist side and other items for which no counterpart on the Communist side is available, such as \$16.3 million for offshore maintenance servicing of military equipment, and \$1.6 million for construction.

Similarly, the cost of supporting a foreign military technician in North Vietnam is valued at substantially less than the cost of an American civilian technician residing in South Vietnam, even though they have the same function. Because of these and other factors, the proportion of US military aid going into military support costs in recent years has averaged around 50-60 percent compared to about 30 percent for the Communists. Table 4 shows a proportional breakdown, by major component, of Communist and US military aid to North and South Vietnam, respectively.

Methodology

12. Estimates of North Vietnam's military imports are derived from a variety of intelligence sources and analytical techniques. The sources,

which include [redacted]

[redacted]

do not permit timely or complete estimates. Analytical techniques vary from the inclusion of an item based on direct evidence, judgments on some components for which partial evidence is available, and on others where there is virtually no evidence.

13. *Combat Materiel and Equipment.* Very limited information is obtained [redacted]

14. The final major component of the materiel estimate—infantry weapons and all types of ammunition—is derived indirectly [redacted]

15. *Military Related Support.* The analytical techniques employed to estimate military support costs reflect the diverse nature of the items contained in this category. For example, for the purpose of this paper only, the amount of POL imports used for military purposes in North Vietnam was derived by using estimated usage rates for NVA military

vehicles and equipment.⁴ The POL estimate is heavily dependent upon the level of military activity and equipment inventories; other factors such as storage capacity and the number of civilian construction projects act as limiting parameters on military consumption.

16. For other items such as medical supplies, communications equipment, and spare parts—where virtually no information on deliveries or usage rates is available—imports were estimated based mainly on the US experience in Vietnam. In the case of medical supplies for example, US medical deliveries have averaged about 1.5 percent of total military aid during the past two years, and a similar percent was used to estimate Communist deliveries. Finally, the number of foreign technicians stationed in North Vietnam and the number of NVA military personnel trained abroad was derived from limited information.

17. *Pricing.* Once the quantitative estimate had been made, unit costs for combat materiel⁵ were assumed on the basis of US production costs. These prices were developed under the assumption that all equipment is new when delivered. [redacted]

⁴ This estimate is particularly shaky [redacted]

⁵ Includes air defense and ground forces equipment and ammunition.

[]

military aid to North Vietnam has been described as "non-refundable" in both the Soviet and Chinese press.

Strengths and Weaknesses of the Methodology

18. Under the combat support category,⁶ US equivalent prices or international prices were used with the exception of two categories—delivery costs and technical assistance. In recent years, the US analog price for packaging, handling, and transporting of materiel sent to South Vietnam has been about 11 percent of the value of the goods shipped. Price estimates for this component, however, were adjusted downward to reflect what were believed to be more accurate shipping charges, given the shorter distances between the Soviet Union and China and North Vietnam. Delivery costs were determined from general data on Soviet freight rates and a more limited knowledge of Chinese rates, which averaged out to about 9 percent of the value of goods shipped overland by the Soviets and 6 percent for the Chinese.

19. If US military technicians were stationed in South Vietnam, the US analog price for their costs (based on the pay scale for a US Army Major) would be roughly [] times our price estimate for foreign military personnel stationed in North Vietnam. The estimate was based on []

[] Other assumptions could have been used to come up with much higher or lower figures.

22. Another difficulty in estimating military aid concerns assigning specific shares to the various donors. For some major items, such as aircraft, this is easy because the particular item is produced or exported by only one country. Other items, however, particularly individual weapons and associated ammunition, are produced by both China and the USSR. Prior to the cease-fire, relatively good information on the shares of this materiel provided by the Chinese and Soviets was available— []

20. The commodity prices used represent the value of the equipment in US terms and do not reflect Soviet or Chinese prices or what Hanoi may have paid for the equipment. The assistance probably has been provided on a grant basis. In the past,

⁶ See the economic section for a discussion of food and POL costs.

⁷ Moreover, this estimate represents the first attempt to quantify the dollar value of total military aid to North Vietnam. Previous estimates focused on annual military hardware deliveries only and their impact on Communist military capabilities.

23. The problem is even more acute with military-related support items where we are forced to use the US experience in Vietnam in order to estimate such categories as spare parts and medical supplies. We have, however, made adjustments for the size of the opposing armies and the different situations facing the two sides which we believe are reasonable.

24. In short, estimates of military deliveries of combat equipment and ammunition to North Vietnam are fairly good, and even a more complete data base would produce estimates of the same relative magnitude. This is not true, however, for the value of most military related support items, where the lack of hard data makes our estimates subject to wider margins of error.

Communist Economic Aid to North Vietnam

25. Arriving at a single acceptable value series for Communist aid to North Vietnam for 1970-74 is considerably more complex than it might appear on the surface. Information on the amount of commodities delivered is relatively good, and the number of foreign technical advisers and students trained abroad can be roughly estimated. The choice of appropriate price series, however, introduces major difficulties. Simply assigning analogies from the US aid program in South Vietnam is unrealistic primarily because US salaries are considerably greater than those of Communist suppliers.⁸ To cope with this problem, we have computed two separate total economic aid bills:

- one based on CIA estimates of international market costs and appropriate Communist salaries (Table 5-A);
- another based on South Vietnam analogies (Table 5-B).

⁸The key difficulty in transferring US salaries to the Communist aid setting is that they reflect productivity. There is every reason to believe that the Communists would require fewer people to do the same jobs if they were of the same skill level as reflected in the prevailing US salaries. This conclusion is consistent with a global Communist aid pattern of project assistance to less developed countries much more labor-intensive (that is, requiring more technicians) than that from other donors.

Economic Aid Flows

26. Total Communist economic aid to North Vietnam during 1970-74 was about \$3.6 billion

Total economic aid—technical and training aid plus the difference between imports and exports—increased throughout the period except for a sharp but temporary drop in 1972. Annual aid levels rose from about \$700 million in 1970 to almost \$1.2 billion in 1974, or from roughly \$850 million to nearly \$1.5 billion, depending on which set of prices is used.

27. Some major changes in composition and origin of commodity imports and aid took place over this relatively brief period. Most of North Vietnam's imports during 1970 and 1971, as in previous years, consisted of seaborne shipments—in large part industrial goods, transportation equipment and food—from the USSR and Eastern Europe. However, these deliveries were sharply reduced in 1972 as a result of the mining of Haiphong Harbor and the curtailment of industrial reconstruction during the bombing. Hanoi shifted emphasis to overland shipments—primarily from China—of foodstuffs, petroleum, and other items that were either essential for the war effort or for meeting minimum civilian consumption needs. Consequently, while Soviet and East European shipments fell drastically, China's contribution dropped less (see Table 6).

28. Imports rose sharply in 1973-74 with the reopening of Haiphong, the resumption of large-scale reconstruction, and the continuing large-scale needs for food and other basic consumption items. China continued the heavy use of the overland routes in 1973, and became the leading supplier for the first time since before the war. Spurred by an upsurge in food deliveries to fill the shortages created primarily by typhoon damage to the 1973 autumn rice crop, import tonnages climbed over 30 percent to an unprecedented 3.5 million tons in 1974. A steady—albeit smaller—increase in imports

Table 5-A

Communist Economic Aid to North Vietnam, 1970-1974
CIA Estimates¹

	1970			1971			1972			1973			1974 ²		
	Quantity (thousand metric tons)	Unit Price	Value (\$ million)	Quantity (thousand metric tons)	Unit Price	Value (\$ million)	Quantity (thousand metric tons)	Unit Price	Value (\$ million)	Quantity (thousand metric tons)	Unit Price	Value (\$ million)	Quantity (thousand metric tons)	Unit Price	Value (\$ million)
Commodity Imports.....	1,900		635	2,250		645	1,525		360	2,520		540	3,450		1,145
Food.....	660	100	65	615	100	60	740	110	80	780	220	170	1,410	295	420
Fertilizer.....	160	65	10	310	45	15	105	40	5	185	40	5	220	120	25
Petroleum ³	225	35	10	225	35	10	155	40	5	365	45	15	465	120	55
Transport Equipment ⁴ ...	15	2,000	35	10	2,050	20	15	2,120	30	20	2,200	40	25	3,200	80
Other Machinery.....	55	3,000	170	30	3,090	100	20	3,150	65	25	3,400	85	50	4,180	205
Metal Products.....	125	280	35	140	390	55	85	350	30	105	340	40	145	420	60
Miscellaneous.....	375	440	165	380	500	190	115	390	45	555	145	80	565	230	130
Unidentified.....	285	510	145	540	360	195	290	345	100	485	215	105	570	300	170
Technical Assistance.....	(thousand persons)			(thousand persons)			(thousand persons)			(thousand persons)			(thousand persons)		
Foreign Technicians.....	3-6	6,500	20-40	4-8	6,500	25-50	2-4	7,500	15-30	4-8	7,500	30-60	5-10	8,000	40-80
NVN Trainees.....	25	2,800	70	25	3,000	75	25	3,300	80	25	3,300	85	25	3,600	90
Subtotal.....			725-745			745-770			455-470			655-685			1,275-1,315
Less Exports.....			50			50			30			80			125
Economic Aid.....			675-695			695-720			425-440			575-605			1,150-1,190

¹ Quantities are rounded to the nearest 5,000 tons; all values are current and rounded to the nearest \$5 million; and technical advisers are rounded to the nearest 1,000 persons.² Preliminary.³ Petroleum figures have been reduced to allow for allocation of part of the petroleum imports to military aid (see paragraph 15). CIA data on total petroleum imports are as follows:

Thousand
Metric
Tons \$ Million

1970.....	375	15
1971.....	405	15
1972.....	390	15
1973.....	735	30
1974.....	775	90

⁴ Transportation equipment figures have been reduced to allow for allocation of a portion of truck imports to military uses (see paragraph 15). Data on total transportation equipment imports are as follows:

Thousand
Metric
Tons \$ Million

1970.....	25	55
1971.....	15	35
1972.....	30	60
1973.....	25	55
1974.....	30	90

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Table 6

North Vietnam's Estimated Trade Balance
with the Communist Countries, 1970-1974

Million Current US \$

	1970		1971		1972		1973		1974 ¹	
	Im-ports	Ex-ports	Im-ports	Ex-ports	Im-ports	Ex-ports	Im-ports	Ex-ports	Im-ports	Ex-ports
Total.....	635	50	645	50	360	30	540	80	1,145	125
USSR.....	350	20	325	25	195	15	200	50	420	65
China.....	65	15	110	10	80	5	225	10	415	25
Eastern Europe and Other.....	220	15	210	15	85	10	115	20	310 ²	35

¹ Preliminary.

² A substantial part of the upsurge in imports from Eastern Europe and other Communist countries in 1974 is attributable to Cuba and North Korea.

of petroleum, machinery, equipment, construction materials, and industrial goods also occurred as the pace of reconstruction picked up with the completion of preliminary damage surveys. Most of the tonnage increase in 1974 was seaborne, with continuing improvements in North Vietnam's port facilities helping the USSR and Eastern Europe to sharply increase their deliveries. China also stepped up its seaborne shipments in 1974, although its share of total Communist deliveries declined from the 1973 high.

29. The imputed value of imports—based on international prices—surged forward more rapidly in 1974 than in any previous year as a result of unusually rapid worldwide inflation. The 30 percent increase in volume was considerably outdistanced by a near-doubling in value from less than \$600 million to about \$1.1 billion. Of the total, the USSR and China accounted for nearly 75 percent, Eastern Europe about 15 percent, and other Communist countries (mainly Cuba and North Korea) another 10 percent.

30. Because the base of evidence is considerably thinner, the detailed analysis possible on the commodity side cannot be extended to technical assistance or training. We estimate that about 5,000-10,000 foreign Communist technicians and advisers were employed in North Vietnam during 1974. A gradual increase in the numbers of technicians or

advisers was noted during the 1970-74 period,

The numbers of Vietnamese being trained abroad—some 25,000—probably remained relatively stable throughout the period. About 80 percent of the students or trainees were sent to the USSR or Eastern Europe while the rest went to China. The increase in the combined value of technical and training aid stemmed much more from annual increases in unit costs than from a rise in their numbers.

[REDACTED]

33. Import prices—under both price series—are calculated in current dollars for each year and include an allowance for transportation.

[REDACTED]

By contrast, CIA estimated prices, where possible, were based on world market information derived primarily from *International Financial Statistics* (an IMF publication) and national statistics of major trading partners. An exception to this rule is machinery and equipment, a broad category for which a representative global price series is not available. In this instance, US production costs were estimated by the Department of Commerce in 1971, suitably adjusted for shipping, and subsequently inflated by the US industrial goods price index each year. Since the CIA estimates for North Vietnam have been compared frequently with South Vietnamese import price statistics to confirm their reasonableness, it is not surprising that the results of the two series are not significantly different. The total value of imports as estimated by CIA is somewhat higher than the analog estimates, reflecting among other things the fact that they have been consistently checked to assure they measure the international market cost to Hanoi's donors of their aid programs.

34. [REDACTED]

[REDACTED]

No estimate has been included for the minuscule amount of commodities arriving by air, except for occasional deliveries of aircraft themselves.

10 [REDACTED]

¹¹ Textiles are usually priced in terms of linear meters. To estimate a value for textile materials, we use a rough conversion of 7,000 meters per metric ton and then make appropriate quality and price judgments.

35. [redacted]

plication, then, they also take cognizance of the substantial differences in average output and living standards among the donors. [redacted]

36. In the absence of any existing series on Communist technical and academic aid to North Vietnam, some innovation was necessary simply to reach appropriate numbers of individuals in these programs. [redacted]

[redacted] we believe that nearly 10,000 Communist technical advisers would have supported the aid projects that were undertaken in North Vietnam during 1974

[redacted] Scattered press and diplomatic reporting has suggested that a rough annual order of magnitude for North Vietnamese trainees in Communist countries is some 25,000.

37. [redacted]

[redacted] The CIA estimates reflect analysis of

[redacted] and consideration of the technical skills and responsibilities of the involved personnel. By im-

38. Estimates of North Vietnam's aid receipts are derived simply by subtracting its exports from its imports of goods and technical services (see Tables 5-A and 5-B). Analysis of such deficits with major suppliers represents the best available method of estimating aid deliveries to North Vietnam, since neither Hanoi nor its donors have ever published any reliable aid figures. No meaningful apportionment of this aid between credits and grants is possible. The Soviet and East European trade statistics show huge deficits for North Vietnam which, because grant aid reportedly is excluded, presumably represent credits. However, the distinction between credits and grants has little real significance. Because Hanoi's cumulative trade deficit with its aid donors had grown so large that there was no likelihood of repayment, the USSR and several of the major East European donors announced a moratorium on all past debts in 1973.

Strengths and Weaknesses

39. The data used in deriving the economic aid estimates vary widely in quality. [redacted]

[redacted] The methodology employed [redacted] is the result of constant checking and adjustment over some 10 years and can be expected to give reasonably reliable results. [redacted]

[REDACTED]

the final analysis, some overall moderate upward bias in prices (caused by overestimates of quality) probably offsets a moderate downward bias in quantities from incomplete coverage.

41. [REDACTED]

[REDACTED] the weakest of the data is in the realm of numbers of technicians and academic trainees.

[REDACTED]

40. After values are assigned to the imports [REDACTED]

[REDACTED] the estimates become less exact but are certainly still defensible. The world market prices and Saigon-landed prices applied to various bulk commodities—such as food, fertilizer, and petroleum—are fairly representative. Both the US price series and the Saigon-landed price series used to estimate import values for many industrial goods, including machinery and transportation equipment, may impart an upward bias to this portion of our estimates because of the probable lower quality of the equivalent goods imported by North Vietnam.

[REDACTED]

12 [REDACTED]

13 [REDACTED]

Comparability with US Aid to GVN

42. Although every effort was made to reconstruct those elements of the Communist aid programs for which there was an equivalent US expenditure in South Vietnam, there remain certain categories that simply are not a part of Communist countries' operations in North Vietnam. For example, some 20 percent of South Vietnam's economic aid in 1974—or about \$150 million of a total of \$700 million—consisted of aid elements other than commodity imports and technical assistance. Another \$50-75 million in economic assistance was provided in the form of direct US piaster purchases for which there are no normal comparable categories in North Vietnam. In addition, about \$90 million of AID-appropriated funds was spent on salary payments to South Vietnamese technical personnel, purchases of local materials, and grants to agricultural and industrial development banks.